

Critical Item: Fire Alarm Release Relay (3 each)

Find Number: None

Criticality Category: 15

SAA No: 09SY01-003

System/Area: Ansul Dry Chemical/MLP-3

NASA Part No: None

PIN/ Name: K61-0741

MFG Part No: Pyrotechnics SR-32  
(TL-30 Module)

Drawing/ Sheet No: 79K07050  
200-202

Function: Energizes release mechanism to discharge dry chemical.

Critical Failure Mode: Fails Open. FM09SY01-003.007

Failure Cause: Broken coil winding.

Failure Effect: Unable to release Dry Chemical in automatic mode. Possible loss of life/loss of a Space Shuttle Vehicle due to damage to Hydraulic Equipment resulting from an uncontrolled fire.

Acceptance Rationale

Design:

- o This system conforms to the requirements of National Fire Protection Association Code (NFPA) 17.
- o Relays are listed with Underwriters Laboratories (UL).

Test:

- o File VI OMRSD requires an annual test:
  - Close hand valve to isolate dry chemical tank from system. Activate manual pull station to perform end-to-end test and verify damper closes and fan shuts down..
- o PMI Requires:
  - Quarterly verify electrical components by energizing initiating and signaling circuits.

Inspection:

- o Verify functional operation annually and at component replacement.

Operational Use:

- o None. response by Fire Services Personnel when MLP at Launch Pad:
  1. During normal Pad operation (routine operation/maintenance personnel present), Fire Services Personnel will respond within 2-9 minutes after notification from LCC Room 1P10.
  2. During hazardous operations at the Pad (access limited to essential personnel only), response time after notification of a fire would be 2-9 minutes. Fire Services Personnel will be on-site or in near proximity during all hazardous operations.
  3. During post-launch operations (no operation/maintenance personnel present), response time after notification of a fire is expected to typically be within 20 minutes.

Failure History:

- o No GIDEP Alerts were reported.
- o No KSC PRACA history of Failure in the Critical Failure Mode.
- o No trouble tickets were reported.